

CLAIMS

What is claimed is:

1. A cable routing system comprising:
a first channel for routing at least one of a plurality of cables in a first direction;
a second channel for routing said at least one cable in a second direction;
and
a plurality of teeth spaced apart from one another and disposed in one of said first channel and said second channel, said teeth positioned to create spaces in-between said plurality of cables before said at least one cable transitions from said first direction to said second direction.
2. The system of claim 1 wherein said first channel comprises:
a base; and
a plurality of sides projecting outward from said base.
3. The system of claim 2 wherein said second channel comprises:
a base; and
a plurality of sides projecting outward from said base.
4. The system of claim 3 wherein said first channel and said second channel are positioned next to each other to create a cable bend area wherein said bend area is sized to allow said cables to maintain said spaces as said cables transition from said first direction to said second direction.
5. The system of claim 3 wherein said second channel further comprises:
a cover operating to cover said second channel base.
6. The system of claim 5 wherein said teeth are located within said second channel and project outward from said second channel base

7. The system of claim 4 wherein said teeth are located in said first channel next to said bend area and said teeth project outward from said first channel base.

8. The system of claim 7 wherein said teeth are mounted to a teeth base wherein said teeth base is mounted to said first channel base.

9. The system of claim 7 wherein said first channel further comprises: a cover operative to cover said base.

10. The system of claim 7 wherein said first channel further comprises: a plurality of covers;
a plurality of base fastening devices attached to said base;
a plurality of cover fastening devices attached to said covers; and
wherein at least one of said cover fastening devices is operative to secure at least one of said plurality of covers to said base by fastening to at least one of said plurality of base fastening devices.

11. The system of claim 10 wherein said plurality of covers comprise one or more of:

a clear cover;
an opaque cover;
a vented cover; and
any combination of said clear, opaque, or vented cover.

12. The system of claim 7 wherein said plurality of teeth extend diagonally outward from said first channel base.

13. The system of claim 12 wherein said first channel and said second channel are positioned at a right angle with respect to one another thereby creating a right angle bend.

14. The system of claim 13 wherein said first channel and said second channel are mounted inside of an electronics enclosure.

15. The system of claim 14 further comprising:
a gasket positioned between said channels and said electronics enclosure
wherein said gasket is comprised of a material that is compatible with
electromagnetic interference specifications of said electronics enclosure.
16. The system of claim 15 wherein at least a portion of said first
channel is wider than said second channel thereby allowing said cables to spread
out along said first channel before said cables transition from said first direction
to said second direction.
17. The system of claim 1 wherein said first channel is multisectional.
18. The system of claim 1 wherein said first channel, said second
channel, and said teeth are made of hot dipped galvanized steel.
19. A method for routing cables comprising:
defining a first channel;
defining a second channel;
disposing a plurality of teeth in one of said first channel and said second
channel, wherein said teeth are spaced apart from one another to create a plurality
of cable paths; and
running said cables in said first channel, through said cable paths, and into
said second channel.
20. The method of claim 19 wherein said first channel comprises:
a base; and
a plurality of sides.
21. The method of claim 20 further comprising:
positioning said first channel and said second channel near one another
thereby creating an angle bend for said cables and a cable bend area wherein said
bend area allows said cables to maintain cable spacing as said cables transition
from said first channel to said second channel; and
mounting said plurality of teeth in said first channel next to said angle
bend.

22. The method of claim 21 wherein said running said cables step comprises:

- running said cables into said first channel;
- assigning each cable of said plurality of cables to at least one cable path of said plurality of cable paths;
- threading said cables through said assigned cable paths;
- running said cables from said assigned cable paths into said angle bend;

and

- running said cables from said angle bend into said second channel.

23. The method of claim 22 further comprising:

- disposing a plurality of teeth inside of said second channel, wherein said teeth are spaced apart from one another thereby creating a plurality of second channel cable paths;
- mounting said plurality of teeth in said second channel near said angle bend; and
- said running said cables from said angle bend into said second channel step comprises:
 - assigning each cable of said cables in said angle bend to at least one of said plurality of second channel cable paths, and
 - running said cables from said angle bend through said assigned second channel cable paths into the remainder of said second channel.

24. An apparatus for increasing the bend radius of a plurality of cables routed in a computer enclosure from a first direction to a second direction that is different from said first direction, said apparatus comprising:

- a first channel having a base and a plurality of sides, and
- a second channel having a base, a plurality of sides, and a plurality of teeth spaced apart from one another operating to create spaces in-between said plurality of cables wherein said first channel and said second channel are positioned to create a cable bend area wherein said bend area is sized to allow said cables to maintain said spaces as said cables transition from said first channel to said second channel.

25. The apparatus of claim 24 wherein said first channel is mounted in an orientation that is vertical with respect to said second channel inside of said computer enclosure so that a right angle is formed between said first channel and said second channel.

26. The apparatus of claim 25 wherein said teeth are mounted next to said cable bend area.

27. The apparatus of claim 24 wherein said first channel further comprises:

- at least one cover;
- a plurality of base fastening devices attached to said base; and
- a plurality of cover fastening devices attached to said cover wherein said plurality of cover fastening devices operate to secure said cover to said base by fastening to said plurality of base fastening devices.

28. The apparatus of claim 27 wherein said first channel further comprises:

- a plurality of teeth mounted inside of said first channel spaced apart from one another projecting outward from said first channel base wherein said teeth are operative to space said cables apart as said cables run through said first channel.

29. The apparatus of claim 24 wherein said second channel further comprises:

at least one cover;

a plurality of second channel base fastening devices attached to said second channel base; and

a plurality of cover fastening devices attached to said cover wherein said cover fastening devices operate to secure said cover to said second channel base by fastening to said second channel base fastening devices.

30. The apparatus of claim 24 wherein at least one of said plurality of teeth is shaped differently from the remaining plurality of teeth.

31. The apparatus of claim 24 wherein at least one of said plurality of teeth is sized differently from the remaining plurality of teeth.

32. The apparatus of claim 25 further comprising a gasket positioned in-between said channels and said computer enclosure wherein said gasket is made of a material that operates to minimize electromagnetic interference.

33. A mechanism for routing a plurality of cables in an electronics enclosure, said mechanism comprising:

means for routing said cables in a first direction;

means for routing said cables in a second direction;

means for increasing a bend radius of said plurality of cables while transitioning from said first direction routing means to said second direction routing means.

34. The mechanism of claim 33 further comprising:

means for covering cables routed in said first direction routing means; and

means for securing said covering means to said first direction routing means.

35. The mechanism of claim 34 further comprising:
means for covering cables routed in said second direction routing means;
and
means for securing said covering means to said second direction routing means.

36. A computer comprising:
a computer housing;
a first channel member mounted on said housing;
a second channel member mounted on said housing in transverse relationship with said first channel member;
an interface region connecting said first and second channel members, said first and second channel members and said interface region defining a continuous cable enclosure;
a plurality of cables extending through said continuous cable enclosure in generally coplanar relationships in a first layer of cables; and
a plurality of cable spacer members extending across at least one of said channel members in a path transverse to paths of said cables in said at least one member and positioned between adjacent ones of said cables, said cables having arcuate portions thereof positioned in said interface region which are arranged in a generally concentric relationship.